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North Dakota Easements District II  
November - January '42

Return to:

Div. Files

NARRATIVE REPORT  
MIGRATORY WATERFOWL EASEMENT REFUGES  
DISTRICT #2 NORTH DAKOTA  
November - December - January  
1941-2

Approved by:

Wesley D. Parker

Refuge Manager

Signed:

Nelson B. Nelson

Laborer-Patrolman

TRANSMITTED BY REGIONAL OFFICE

2/10/42

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## Narrative Report

### 1. Lake Ardoch Refuge

#### I. General

##### A. Water and weather conditions.

<u>Rainfall</u>	
November . . . .	.08
December . . . .	.07
January . . . .	<u>.15</u>
Total	.30 inches

In addition to the rainfall mentioned above about one inch of snow fell making it a total of five inches thus far for the winter.

B. Water Conditions: Most of the lake was drained by the middle of November and at the time the water was still in fair condition. The springs did not flow very much until the last week in January. A year ago, the springs began flowing above normal in November.

#### II. Wildlife

##### A. Waterbirds

##### 1. Population and behavior.

- a. species: About 300 Mallards remained on Lake Ardoch in an open spring until the last week in December.
- b. Merganser - one was seen with the Mallards at a spring on Lake Ardoch.
- c. Bohemian Waxwing - a flock of about thirty were seen several times near the Lake Ardoch government buildings in December.
- d. Groups - On December 16th there were still about 5000 ducks (mostly Mallards) and 75 Canada Geese on the Lake. A few ducks remained until after the close of the hunting season. The highest number of ducks recorded for

November on Lake Ardoch was 6,000 and the largest number of geese, 850. Most of the geese were the Greater Canada Geese, the balance, Hutchin's Geese.

2. Food and Cover - In the inlet channel from the north, Sago Pondweed was common. Very little was growing beyond the mouth of the channel. Beds of *P. vaginatus* were common over the lake but very little seed could be found on the plants after the first of November. *S. Paludosus* plants on the west side of the lake about the islands, fruited fair. Most of the plants were from six to eight inches high. The main cover plant on the natural islands still remains one of the cord grasses.

#### B. Upland-game Birds

1. Population and behavior; no change in their numbers. A little grain has been put out for them during severe weather.

### III. Refuge Development and Maintenance.

#### A. Physical Development.

1. The Sullys Hill and Lake Ardoch Patrolman hauled 22 cu. yds. of rock (round trip for rocks, 63 miles), 20 cu. yds. of oversize gravel and 11 cu. yds of clay. The rocks were placed on the dam <sup>h</sup>were the south washout occurred last summer. The oversize was placed at the north washout on the dam. The clay was thawed out from the clay pit near the dam and used to fill in the washouts. Clay and rocks were filled in the washout on the south west corner of the bridge.

### IV. Public Relations.

#### A. Recreational Uses. None

#### B. Number of visitors (official and others).

1. Refuge Manager from Sullys Hill inspected the refuge

several times.

2. Field Inspector, F. C. Gillett inspected the refuge on January 27th.
3. About 100 persons visited the Lake Ardoch Refuge.

## 2. Billings Lake

### I. General.

- A. Water Conditions - The lake froze up at about two inches below spillway level. Due to the heavy rains during the fall the water was quite fresh when the lake froze over.

### II. Wildlife.

#### A. Waterbirds.

1. Population and Behavior - Mallards remained on the lake until it froze over. Since food was plentiful in the vicinity, up to 5000 ducks at times used the lake for a stopping place.
2. Food and Cover - Due to the heavy concentration of ducks during the fall migration a good portion of the aquatic food was cleaned up. The hardstem and burr- reed made up most of the cover.

## 3. Buffalo Lake

### I. General

- A. Water Conditions. The lake froze over with up to three feet of water in places. Most of the lake bottom was covered.  
Water control structures were all in good condition.

### II. Wildlife

#### A. Waterbirds.

1. Population and Behavior - Several thousand ducks and numerous geese used the area during the fall migration. The birds were using the north end of the lake mostly since it had more



cover besides a few aquatics.

#### 4. Johnson Lake.

##### I. General.

- B. Water Conditions - The lake froze over with about twenty-two inches of water on the average. The man-made islands were all in good condition when inspected.

##### II. Wildlife.

###### A. Waterbirds.

1. Population and behavior - several thousand ducks continued to use the area until the lake froze over. The ducks on the area in November before the freeze-up were mostly Mallards.
2. Food and Cover - The aquatic and marsh plants fruited fairly good - thus, it is expected that there will be an increase in plant life on this area this coming summer, especially, sago pondweed and milfoils.

- B. Upland Game Birds - It is estimated that there are about one hundred pinnated grouse, thirty sharptail, seventy-five pheasants and fifty Hungarian Partridges on this area. There is sufficient cover and food for all upland-game birds.

#### 5. Kellys Slough

##### I. General

- A. Water Conditions: The area froze over at spillway level. The springs have been flowing so that water has been flowing over the spillway slowly all winter. A sample was taken of the water at the spillway to be analyzed.

##### II. Wildlife

###### A. Waterbirds.

1. Population and behavior - about 200 Mallards are staying in the open springs feeding on five-spined sticklebacks and in local fields on corn and other grains.

B. Fur-bearing animals - It does not appear to be any increase in the muskrats on the area over last year. There is, this winter, one muskrat house below the dam which is off the refuge. It is believed that the mink are keeping the muskrats under control. There are about twenty mink on the area.

### III. Refuge Development and Maintenance.

A. Physical Development - Several refuge markers were replaced that could not be replaced before the marsh froze over.

## 6. Lac Aux Mortes.

### I. General.

A. Water Conditions - The lake froze over at about nine inches below spillway level. The spillway was in good condition.

### II. Wildlife.

#### A. Waterbirds.

1. Population and behavior - during the first week in November there were about four thousand ducks on the area besides about fifty Canadian Honkers.
2. Food and Cover - There were very few submerged aquatic plants in any part of the lake but plants such as smartweeds, hardstem and river bulrush were common over most of the lake.
3. Disease - there were no more signs of botulism in November.

### III. Refuge Development and maintenance.

A. Physical Development - another haystack was burnt that was in the lake. Water was baled out of the basement in the cabin several times.

IV. Fur-bearing animals, predators and rodents - Trapping permits were issued to several renters and land owners on the refuge to trap skunks, weasels and foxes.

7. Lambs Lake.

I. General.

A. Water Conditions - The lake was about six inches below spillway when it froze over. The dam and spillway were in good condition at the time.

II. Wildlife.

A. Waterbirds - There were about two hundred mallards on the area during the first part of November. They were feeding in local grain fields.

III. Refuge Development and Maintenance -none during this quarter.

8. Little Goose

I. General.

A. Water Conditions - the lake was about five inches below spillway level when the cold weather set-in . The dam and spillway were in the same condition as a year ago. There are signs of a slight seepage.

II. Refuge Development and Maintenance - all ground squirrel and badger holes were refilled.

9. Minnewastena Refuge - no change.

10. Pioneer Lake - no change.

11. Pleasant Lake - no change.

12. Prairie Lake

I. General - Immediately back of the dam there was a pond of water besides a couple small sloughs in the pasture to the west of the dam when the cold <sup>e</sup>water set-in. The dam and spillway were in good condition. One badger or skunk hole was refilled. Only a few water birds used the refuge this quarter.

13. Rose Lake.

I. General.

A. Water Conditions - the lake froze over at about four inches below spillway level. The dam and spillway were in good condition.

II. Wildlife

A. Waterbirds.

1. Population and behavior - during the first part of November there were about nine hundred Mallards on the lake. A few geese were reported seen on the area, also.

2. Food and Cover - besides foods such as sago pondweed, water milfoil and crustaceans from the lake there were plenty of grain fields locally.

III. Refuge Development and Maintenance - one badger hole on the dam was refilled.

IV. Predators and Rodent Control: The gopher poison box which was used on the dam most of the summer was removed for the winter.

14. Sibley Lake

I. General.

A. Water Conditions - the lake froze over with about nine inches of water in the deepest parts of the lake.

II. Wildlife.

A. Waterbirds - according to local residents up to five hundred ducks (mostly mallards) were common during the first part of November on the lake.

B. Upland-game Birds - this area has about seventy-five pheasants besides a few grouse and partridge. There is sufficient cover and food to take care of the upland-game birds.



15. Silver Lake

I. General - The dam and spillway were in good condition. The creek had considerable amount of water besides a fair supply of water in the lake. It is estimated that about three thousand mallards were still using the lake during the first part of November.

16. Wood Lake Marsh

I. General - the dams and spillway were in good condition and there were no signs of any muskrats living around the dam. This area, though small, took care of several thousand ducks during the fall migration.

(A)

ANALYSIS OF WATER FROM LAKE ARDOCH, NORTH DAKOTA

Sample submitted by Mr. Nelius B. Nelson, U.S. Fish and Wildlife Service, Ardoch, North Dakota - January 23, 1942

Date on which the sample was collected - June 26th, 1941  
*taken from various parts of the lake.*

The following analysis includes only the determinations requested.

SAMPLE MARKED: "No. 8"

pH of the water as received - - - - - 8.0  
(This was precisely measured with the Beckman glass electrode).

	<u>Parts per Million</u>
Total Dissolved Solids. (Residue upon evaporation, heated 1 hour at 180 degrees C.) - - - - -	2079.0

Total Solids, both suspended and dissolved, could not be determined, as the sample had stood long enough to settle clear.)

Total Alkalinity (as $\text{CaCO}_3$ ) - - - - -	158.0
Total Hardness ( as $\text{CaCO}_3$ ) - - - - -	594.0
Carbonate Hardness ( as $\text{CaCO}_3$ ) - - - - -	158.0
Non-Carbonate Hardness ( as $\text{CaCO}_3$ ) - - - - -	436.0

- - - - -

Remarks:-

All values of "Hardness" reported are precision values obtained by determining the actual amounts of calcium and magnesium, and are not to be confused with approximate values obtained by soap titration and soda reagent. Of the total hardness of 594.0 parts per million, 342.5 parts are due to calcium and 251.5 parts are due to magnesium. ( Both expressed as  $\text{CaCO}_3$  ).

The most abundant salts in the water are sodium chloride (common salt), sodium sulphate (Glauber's salt), with smaller, but considerable amounts of the chlorides and sulphates of calcium and magnesium. Iron is not excessive. The water is slightly colored with organic Matter.

Signed:

G. A. Abbott, Analyst.

University Station  
Grand Forks, North Dakota  
January 31st, 1942

(B)

ANALYSIS OF WATER FROM LAKE ARDOCH, NORTH DAKOTA

Sample submitted by Mr. Nelius B. Nelson, U.S. Fish and Wildlife Service, Ardoch, North Dakota, January 23, 1942.

Date on which the sample was collected - October 28th, 1941

The sample was taken at the Control Gates.

The following analysis includes only the determinations requested.

SAMPLE ~~MARKED~~, "No. 9"

pH of the water as received	8.2
	Parts per Million
Total Dissolved Solids,	2680.0
Total Solids, both suspended and dissolved, could not be determined, as the sample had stood long enough to settle clear.	
Total Alkalinity (as $\text{CaCO}_3$ )	170.0
Total Hardness (as $\text{CaCO}_3$ )	594.3
Carbonate Hardness (as $\text{CaCO}_3$ )	170.0
Non-Carbonate Hardness (as $\text{CaCO}_3$ )	424.3

Remarks:-

All values of "Hardness" are precision values obtained from determinations of the actual calcium and magnesium contents. They are not approximate values determined by soap titration and soda reagent. Of the total hardness of 594.3 p.p.m., 350.0 parts are due to calcium and 244.3 parts are due to magnesium. (all values expressed as  $\text{CaCO}_3$ ).

The solids<sup>3</sup> in this No. 9 sample are somewhat higher than those of No. 8; but this largely due to the sodium salts, as the calcium and magnesium values are not very different. Most of the increase is due to common salt, which is approximately twice the quantity found in No. 8.

Signed: G. A. Abbott, Analyst

University Station  
Grand Forks, North Dakota  
January 31st, 1942

(C)

ANALYSIS OF WATER FROM KELLYS SLOUGH - North Dakota

Sample submitted by Mr. Nelius B. Nelson, U. S. Fish and Wildlife Service, Ardoch, North Dakota, January 23, 1942.  
Sample collect at overflow from dam on December 19th, 1941.

SAMPLE MARKED, "No.10".

pH of the water as received	7.82
Total Dissolved Solids,	Parts per million 15,224.0
Total Solids, both suspended and dissolved, could not be determined, as the sample had stood long enough to settle clear.	
Total Alkalinity ( $\text{CaCO}_3$ )	240.0
Total Hardness (as $\text{CaCO}_3$ )	3,069.5
Carbonate Hardness (as $\text{CaCO}_3$ )	240.0
Non-Carbonate Hardness (as $\text{CaCO}_3$ )	2,829.5
** - - - - - **	

Remarks:-

This is a highly saline water, as is to be expected from the many salt springs that feed the pond. The most abundant mineral is common salt; but large amounts of the chlorides and sulphates of calcium and magnesium are also present as shown by the enormous hardness, most of which is non-carbonate hardness. As in the other analyses, from Lake Ardoch, the hardness was measured by determining the actual amounts of calcium and magnesium. Soap titration of waters of this type, high in magnesium, are unreliable. Of the total hardness of 3,069.5 parts per million, 1877.5 parts are due to calcium, and 1192.0 parts to magnesium. (all expressed as  $\text{CaCO}_3$ ).

Signed:

G. A. Abbott, Analyst.

University Station,  
Grand Forks, North Dakota  
January 31st, 1942

Note - about 18" of ice when  
sample was secured  
Nelson

*L. Brown advises  
that unless toxic  
salt is present the  
concentration (35%)  
sea water would  
not inhibit plant  
growth RAB*





Lake Ardoch Refuge- January 24th, 1942; Rocks and clay hauled in back of the wooden cut-off wall to prevent further washing. Material hauled by Sullys Hill and Lake Ardoch Patrolmen.



Lake Ardoch Refuge- January 24th, 1942; Oversize hauled by the Sullys Hill and Lake Ardoch Patrolmen on the Lake Ardoch dam.



Lake Ardoch Refuge - October 8th, 1941; Whistling Swan picked up near Kellys Slough wounded by hunters during the hunting season.



Lake Ardoch Refuge - October 5th, 1941; View from tower of the Lake. Rafts of ducks in the background.



Lake Ardoch Refuge - October 8th, 1941: Whistling Swan  
picked up near Kelly's Slough wounded by hunters during  
the hunting season.

Lake Ardoch Refuge - October 8th, 1941: View from tower of the  
Lake. Rafts of ducks in the background.





## ROUTING SLIP

## DIVISION OF WILDLIFE REFUGES

DATE: 12-4-1941☒ MR. SALYER JS ☒☒ (1) ~~MRS. WOODIN~~ NBW 12/13☒ ~~MR. FLEWER~~ CEG 1/12☐ MRS. GARVIN☒ ~~MR. DUMONT~~ PAD 12/29

## SECTION OF HABITAT IMPROVEMENT:

~~Mr. Kubichek~~ WSK 1/23/42~~Mr. Smith~~ RNS 12/5~~Mr. Griffith~~ CEG 12/11/41~~Miss Cook~~ JWC 12-11-41☒ SECTION OF OPERATIONS:~~Mr. Krumm~~ WK 1/14~~Mr. Gustafson~~ WK 1/14☒ (2) Miss Baum WK

Mrs. Kricun

☒ SECTION OF ERA:~~Mr. Regan~~ HJR 1/21/42~~Dr. Bourn~~ WSB 1/21/42

Mrs. Fishman

☒ SECTION OF LAND MANAGEMENT:~~Mr. Barnshaw~~ B~~Mr. Ackert~~ 11-15☒ STENOGRAPHERS:~~Miss Whorley~~ WU 1-29-42☒ SECTION OF STRUCTURES:~~Mr. Tait~~ WWT 1/21/42

## REMARKS:

N. Dakota Enclosures # 2QuarterlyAugust - October 1941

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Wildlife Refuges



IN REPLY REFER TO

Easements  
Reports

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
FISH AND WILDLIFE SERVICE  

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OFFICE OF REGIONAL DIRECTOR  
500 NATIONAL BUILDING  
MINNEAPOLIS, MINNESOTA

REGION 3

NORTH DAKOTA  
SOUTH DAKOTA  
NEBRASKA  
MINNESOTA  
IOWA  
MISSOURI  
WISCONSIN  
MICHIGAN  
ILLINOIS  
INDIANA

December 2, 1941

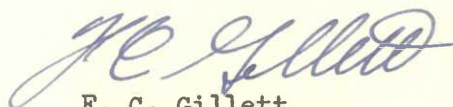
The Director,  
Fish and Wildlife Service,  
Washington, D. C.

Dear Sir:

There is enclosed the quarterly narrative report for  
Easement Refuges in District No. 2, submitted by Mr. Wesley  
D. Parker, Refuge Manager, covering the period August -  
October, 1941.

This office found it necessary to return the report to  
Mr. Parker for correction, which delayed its submission to the  
Washington office.

Very truly yours,



F. C. Gillett  
Refuge Inspector

Enclosure

IN REPLY REFER TO

**Basements  
Reports**

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
FISH AND WILDLIFE SERVICE  

---

OFFICE OF REGIONAL DIRECTOR  
500 NATIONAL BUILDING  
MINNEAPOLIS, MINNESOTA

REGION 3

NORTH DAKOTA  
SOUTH DAKOTA  
NEBRASKA  
MINNESOTA  
IOWA  
MISSOURI  
WISCONSIN  
MICHIGAN  
ILLINOIS  
INDIANA

December 2, 1941

The Director,  
Fish and Wildlife Service,  
Washington, D. C.

Dear Sir:

There is enclosed the quarterly narrative report for  
Basement Refuges in District No. 2, submitted by Mr. Wesley  
D. Parker, Refuge Manager, covering the period August -  
October, 1941.

This office found it necessary to return the report to  
Mr. Parker for correction, which delayed its submission to the  
Washington office.

Very truly yours,

F. C. Gillett  
Refuge Inspector

Enclosure

Basement Refuges in District #2  
North Dakota  
Narrative Report.

Sullys Hill Game Preserve,  
Ft. Totten, N. Dak.,  
Nov. 30, 1941.

Regional Director,  
500 National Building,  
Minneapolis, Minn.

Dear Mr. Maurek:

Reference is made to Mr. Gillett's letter of Nov. 21, 1941 relative to the making out again of the Narrative Report for the Basement Refuges.

Inclosed there is the original and a copy of the said report. The said report has been made out as requested by giving the information for each Refuge separately. When making out these reports, we do not always know just how some parts of them should be made out although the memorandum is followed. We hope that this report is the way the office desires to have it made out. If there are any other changes that should be made out on future reports, please let us know and we will be glad to make the changes.

With the kindest of regards, I am

Very truly yours,

*Wesley D. Parker*

CC: Mr. Nelson.

Refuge Manager.







NARRATIVE REPORT  
MIGRATORY WATERFOWL EASEMENT REFUGES  
DISTRICT #2 NORTH DAKOTA  
August - September - October  
1941

Approved by:

Wesley D. Parker  
Refuge Manager

Signed:

Nelson B. Nelson  
Laborer-Patrolman

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TRANSMITTED BY REGIONAL OFFICE

12/2/41

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## Narrative Report

## 1. Lake Ardoch Refuge

## I. General

## A. Weather conditions.

	<u>Rainfall</u>
August . . . .	2.00
September . . . .	8.75
October . . . .	1.33
Total	<u>12.08</u> inches

On the 29th of October four inches of snow fell in the Lake Ardoch vicinity. The western half of this district received about two inches of snow.

B. Water Conditions: The water in Lake Ardoch was good throughout the entire quarter, to the extent that no farmers reported that livestock would not drink the water from the lake. Due to the amount of rainfall it was possible to keep open one of the radial gates all the time, so that the river below the dam had sufficient fresh water for livestock. One sample of the lake was taken in October to be tested.

## II. Wildlife

## A. Waterbirds

## 1. Population and behavior.

- a. species: Double-crested Cormorants - about 450 were on Lake Ardoch a few days during the first week in October. This is the largest number recorded at one time on this refuge.
- b. Greater Canada Goose - approximately 1350 was the highest number at one time during October on Lake Ardoch. The first honkers came in a few days before hunting season opened.
- c. Blue Geese - several small flocks were observed on the lake during October. Each flock appeared to stay only over night.

d. Lesser Scaups - not over two hundred stopped on the Lake Ardoch Refuge during the fall migration.

e. groups - The highest number of ducks recorded on Lake Ardoch during October was 17,000.

2. Food and cover - It is quite sometime since food and cover has been as good as this period. Due to rains threshing was late in the vicinity - little damage was reported done to wheat shocks by ducks or windrowed grain in this vicinity. Hunters report that the ducks couldn't be better eating.

The pondweed, *P. vaginatus*, did not show any increase over last year.

#### B. Upland-game Birds

1. Population and behavior: On the Lake Ardoch Refuge several more partridges and pheasants have been observed. Due to the lack of grain fields and corn fields it is believed that pheasants will not increase on the refuge to any extent.

E. Fish: During most of the quarter, white Buffalo fish were seen at the control gates. Frequently one of them would jump out of the water and hit the control gate - land on the channel iron on the radial gate. Often they are unable to get off.

### III. Refuge Development and Maintenance.

#### A. Physical Development.

1. The garage doors and gas pump were given one coat of paint.

All the weeds along the trail to the cabin from the main road were cut. The weeds on the dam were cut.

#### B. Plantings. ✓

1. Aquatic and Marsh Plants - The wild millet planted about Lake Ardoch grew better than expected. The wild millet along the dam did not produce very much seed since ducks kept it down.

2. Trees and shrubs. all the spruce planted about the refuge

headquarters this last spring, died. The other trees and shrubs grew better than expected.

#### IV. Public Relations.

- A. Recreational Uses - a few picnics were held in the trees east of the Lake Ardoch Refuge headquarters.
- B. Number of visitors (official and others)
  - 1. About 500 persons visited the **Lake Ardoch** Refuge.

#### 2. Billings Lake

##### I. General

- B. Water Conditions: The lake was at spillway level most of the period. The water was very fresh for this time of the year - this was due to the heavy rains.

##### II. Wildlife

- A. Waterbirds: When the area was visited in October there were about 2000 ducks; mallards were the most common, followed by pintails. A few shovellers, blue-winged teals, gadwalls and baldpates were seen.
  - 1. Food and Cover - the marsh and aquatic plants were well represented over the lake; the following plants were identified: hardstem bulrush, burr-reed, sago pondweed, water-milfoil, lemna minor, and a few clumps of cat-tails. This area is lacking in nesting cover because most of the refuge lies in a pasture.

#### III. Refuge Development and Maintenance.

- A. Physical Development. All the refuge markers were replaced except for a few that could not be reached. The dam and spillway were inspected; a few gopher holes on the dam were refilled. The wooden refuge sign was replaced after it had been repainted.

### 3. Buffalo Lake.

#### I. General

B. Water Conditions: The water rose steadily during the period due to rains and by the end of the quarter water covered the entire lake bottom. It was difficult to determine how far below spillway level the lake was at the time; appears to be about two feet below.

#### II. Wildlife

##### A. Waterbirds

1. Population and behavior; Several thousand ducks and numerous geese used the area during migration. Seven Great Blue Herons were seen on the lake near the cabin.
2. Food and cover - The north end of the refuge has good cover since it did not go dry during the past few years. Over the balance of the lake there are very few marsh and aquatic plants. On the west side a few hardstem bulrush plants are beginning to grow.

#### III. Refuge Development and Maintenance.

A. Physical Development.- All the refuge markers were replaced and the wooden sign which was repainted last winter, was put back up. All the weeds in the cabin yard were cut and other fire prevention work was done about the government buildings. The dam and spillways were inspected and found to be in good order.

B. Plantings: the trees that were planted on government owned land near the cabin several years ago did quite well in spite of the fact that they have not been taken care of due to the lack of equipment.



#### 4. Johnson Lake.

##### I. General.

B. Water Conditions - This area has a large flat slough or marsh lake set in a rather deep valley (part of the Sheyenne drainage system) - again looks very promising. According to information obtained this lake was dry in 1890 and 91. In 1892 it filled again and did not go dry until the summer of '36. It remained dry except for light soakings until the spring of 1941. The rains this fall have now brought the average depth of the lake up to about 18 inches.

##### II. Wildlife.

###### A. Waterbirds.

1. Population and behavior - during the second week in September there were about 2500 ducks on the area. Pintails and Mallards were the most common; gadwalls, baldpates, shovellers, and a few canvas-backs and redheads were seen.
2. Food and Cover - the aquatic and marsh plants have reappeared beyond expectations. Hardstem bulrush is common while some prairie bulrush, burr-reed, cordgrass and arrowhead plants show promise of good growth next summer. Sago Pondweed, coontail and water milfoil are common over most of the lake. The cover outside of the lake is excellent since pasturing is not heavy on the area.

B. Upland-game birds - the refuge is well represented with grouse, pheasants and partridges. Food and cover is sufficient to take care of present population.

D. Big-game Animals - According to local farmers, deer can be seen occasionally on the Johnson Lake Refuge.

## 5. Kellys Slough.

### I. General

B. Water Conditions: During most of the period the water was running over the spillway. The marsh had a good supply of water.

### II. Wildlife.

#### A. Waterbirds.

1. Population and behavior - During migration several thousand ducks stopped on the area and fed in nearby fields. During October about two hundred geese used the lake. The Hutchins Goose was the most common until the latter part of October when the Greater Canada Goose came in.

During August and September Canvas-backs and Redhead ducks were numerous on the area; they had increased about 18% over the same period last year.

### III. Refuge Development and Maintenance.

A. Physical Development - The old refuge markers were replaced with the new standard refuge markers and the refinished wooden signs were put back up. Both sides of the spillway was repaired where a little washing had occurred.

## 6. Lac Aux Mortes.

### I. General.

B. Water Conditions - During most of the quarter the lake was from 8" inches to three inches below spillway level. The ~~area~~ water was fresh and clear over the entire area.

### II. Wildlife.

#### A. Waterbirds.

Population and behavior - During August and September the duck population decreased due to the lack of food in the lake. They moved out to the smaller ponds some of which had been created by

heavy rains. About 10,000 ducks were on the area most of the quarter; mallards and pintails were the most common; canvas-backs, redheads, gadwalls, baldpates, blue-winged teals and one wood duck were observed.

The wood duck was picked up during the botulism epidemic. He had had a broken right leg which had grown together again; the leg was about twice as large about the tarsus. It was not definitely determined whether or not botulism was the cause of his illness as it was only slightly weak. The bird was given the regular treatment and released after banding, at the Sullys Hill lake. It was observed several times later.

2. Food and Cover - In 1936 *S. paludosus* (Prairie Bulrush) seed was harvested on the refuge. The patrolman covered the lake thoroughly during September but could not find any *S. paludosus* on the area; instead it was found that River Bulrush (*S. fluviatilis*) was common over most of the lake and was fruiting abundantly. Plants up to six and half feet long growing in water up to four feet deep, appeared to be able to stand up to the fair-sized waves. It has not been determined how these plants got started but it is believed that seed may have come down the coulee which leads into the lake.

Smartweeds covered about half of Lac Aux Mortes and fruited abundantly; it was one of the main foods during August and September. Hardstem bulrush was common over the area, also.

3. Disease: On Lac Aux Mortes an outbreak of botulism was noticed on August 28th. Immediately, steps were taken to keep it under control. By the use of a boat and outboard motor all the islands and sand bars were covered periodically as well as parts of the marsh where there were barbed-wire fences. A total of 1242 dead

birds were picked up; 410 were ducks; the balance were largely coots. By the middle of September it was well under control. No doubt the heavy rains in September helped to control the epidemic. Only 22 sick ducks were picked up; these were treated and 12 recovered. It is believed that the barbed-wire fences played an important part in the outbreak. These fences had been put up by the farmers when the lake was dry. There was one haystack and one strawpile in the lake but seldom was a dead bird picked up about them; however, these stacks were burned down to the lake level just in case they did play a part.

### III. Refuge Development

A. Physical Development. - The old refuge markers were replaced with the new standard refuge markers on the area. Weeds were cut about the buildings and tower.

### IV. Public Relations.

B. Number of visitors (official and others).

1. Mr. M. O. Steen, Mr. R. Stuart and Mr. R. N. Bach visited at Lac Aux Mortes Refuge during the botulism epidemic. Mr. Thompson and Mr. Childers visited the Lac Aux Mortes Refuge.
2. About 200 persons visited the area.

## 7. Lambs Lake.

### I. General

Water Conditions - The lake was near spillway level most of the period. The abundance of rain kept the lake fresh.

### II. Wildlife

#### A. Waterbirds.

1. Population and behavior - Up to a thousand ducks were on the lake during October, according to local farmers. The canvas-backs which nested on the area raised some good broods; one brood of fourteen <sup>was</sup> ~~were~~ counted.



2. Food and cover - This area has been dry for several years but in spite of this, marsh and aquatic plants have reappeared quite well. Hardstem bulrush is common and sago pondweed plants are well represented over the entire lake.

### III. Refuge Development and Maintenance.

- A. Physical Development.- All the refuge markers that could be reached were replaced with the new standard markers. The refinished wood refuge sign was put back up. Several gopher holes were refilled on the dam.

### 8. Little Goose. ✓

#### I. General

- A. Water conditions - The lake was at spillway level most of the period. Due to the rains the water was fresh.

#### II. Wildlife

##### A. Waterbirds .

1. Population and behavior - about one hundred ducks were on the lake most of the period. During October several hundred geese stopped on the lake according to local farmers.
2. Food and cover - Sago pondweed has become quite common over the lake. Hardstem bulrush plants are beginning to appear in several other places on the shores besides the fair sized clump at the north end.

- ### III. Refuge Development and Maintenance - All the old refuge markers were removed and replaced with the new standard refuge markers. Several holes on the dam (gopher) were refilled. The dam was carefully inspected for muskrat holes. No muskrats have been observed.

9. Minnewastena Refuge ✓

I. General

B. Water Conditions - This lake has become several inches deeper due to the heavy rains and naturally, the water is fresher.

II. Wildlife - few waterfowl use this area. This may be due to the Indians living about the area and the summer resort on one side of the lake.

III. Refuge Development and Maintenance - the old refuge markers were replaced with the new standard markers. The wood sign which was refinished last winter was put back up.

10. Pioneer Lake ✓

I. General

B. Water Conditions - Pioneer Lake had plenty of water for all the nesting birds on the refuge even though the dam was washed out last spring. The rains created several ponds in the fields on the west half of the refuge which migratory birds made good use of.

II. Wildlife

A. Waterbirds.

1. Population and behavior - there was a fifty per cent decrease in nesting birds on the area over last year due to less water to attract them during migration.

2. Since the dam went out last spring the area about the dam was pastured resulting in less cover. Few marsh and aquatic plants grow on the refuge.

III. Refuge Development and Maintenance - All new refuge markers were put up besides the refinished wooden refuge sign.

11. Pleasant Lake

I. General

B. Water conditions - the entire area dry, except for a few springs at the north end.

II. Wildlife - few, if any waterfowl using the area. Several bunches of partridges and a few pheasants have been observed. There is fair cover on this refuge.

III. Refuge Development and Maintenance - all refuge markers replaced and wooden refuge sign which was refinished last winter, was put back up.

12. Prairie Lake.

I. General

B. Water Conditions - the pond back of the dam had a good supply of water. There were several small sloughs filled with water in the pasture west of the dam.

II. Wildlife - the water area being quite small, few ducks and geese stop on the area. About thirty ducks were using the water area regularly; seventeen geese were seen on the west end of the refuge.

III. Refuge Development and Maintenance - All the refuge markers were replaced with the new standard markers; the wooden sign which had been refinished was put back up. Two holes made by badgers in search for gophers, were dug up and refilled on the dam.

13. Rose Lake ✓

I. General

B. Water Conditions - During the period the lake was from 4 inches below to spillway level.

II. Wildlife

A. Waterbirds.

1. Population and behavior - during October up to two thousand ducks were seen on the lake at a time. Before the fall migration about two hundred ducks were using the lake regularly; most of these were pintails and mallards; several canvas-backs, redheads and gadwalls were observed.

2. Food and Cover - Rose Lake which last year was solid with Prairie bulrush has again made a change. The bulrush started coming last spring but no doubt due to the depth of the lake it died out and by September Sago Pondweed had become common over the area. The cover is very good on this area.

III. Refuge Development and Maintenance - all the refuge markers were replaced and the refinished wooden refuge marker put back up:

A few holes on the dam made by gophers and badgers were refilled.

14. Sibley Lake ✓

I. General

B. Water Conditions - During August the lake became quite low; there were only about four inches of water. The rains during September brought the level up about four inches, making a total of about eight inches of water.

II. Wildlife

A. Waterbirds - about three hundred ducks used the lake most of the time. Mallards and pintails were numerous; of the balance, blue-winged teals were the most common.



2. Food and Cover - There is an abundance of cover but food plants are not plentiful. A few sago pondweed plants were seen in several places on the lake so that if the water supply is sufficient next spring, pondweeds may become common.

B. Upland Game Birds - there are more upland birds on this refuge than on any of the others in this district. It is estimated that there are about one hundred pheasants, nearly a hundred grouse and fifty to hundred partridges (Hungarian).

D. Big-game Animals; Three deer were seen on Sibley Lake on the west side. Their tracks were common over most of the area.

III. Refuge Development and Maintenance - all refuge markers were replaced and wooden sign was put back up.

15. Silver Lake ✓

I. General

B. Water conditions - the creek (Mauvais Coullee) had a good supply of water all fall. The lake increased in depth several inches during September due to the rains.

II. Wildlife

A. Waterbirds.

1. Population and behavior - when visited in October there were about 6000 ducks on the lake and creek.
2. Food and Cover - both have made a good come-back after having been dry in most places for some time. Several patches of Hardstem bulrush are present in the lake now.

III. Refuge Development and Maintenance - all refuge markers were replaced and wooden refuge signs put back up.

16. Wood Lake Marsh

I. General

B. Water Conditions - the lake was near spillway level most of the period and was quite fresh.

II. Wildlife

A. Waterbirds.

1. Population and behavior - for the size of the area, this place has many birds. During the last week in October about 500 ducks were seen. A few canvas-backs and redheads were observed in the bunches.
2. Food and cover - the aquatics are well represented in the lake; it has more species of aquatics than any of the other refuges in this district. Cover is made up chiefly of upland grasses and cord grass; in places, sweet clover makes up the rest cover.

III. Refuge development and Maintenance - the refuge markers were replaced with the new standard refuge markers. The dam and spillway was carefully inspected and a few gopher holes refilled.

\* \* \* \* \*

Note: This narrative report was re-written according to instructions received. The best was done to make it clear and yet not too long. The writer will appreciate any further suggestions to improve the narrative report.



Lake Ardoch Refuge, August 19th, 1941; Forest River as it enters Lake Ardoch. Shows shore vegetation - mostly cord grasses. Ducks, coots and several double-crested cormorants in the distance.



Silver Lake Refuge, August 25th, 1941; west half of the lake. Fine nesting cover; a few patches of hardstem bulrush has started. Ducks numerous.



Buffalo Lake, August 23rd, 1941; Lake refilling after being dry for several years. Government owned cabin on the right-hand side.



Johnson Lake, September 11th, 1941; west side of the lake; shows abundance of hardstem bulrush; island in the distance. Lake at the time this was taken - 16" deep.



time this was taken - 10.00 a.m.

abundance of waterfowl present: taking in the district of the  
Johnson Lake, September 11th, 1941: west side of Johnson Lake



for several years. Government owned cabin on the right-hand side.  
Johnson Lake, August 23rd, 1941: Lake left after being dry

## ROUTING SLIP

## DIVISION OF WILDLIFE REFUGES

DATE: 8-7 1941☒ ~~MR. SALYER~~

## SECTION OF HABITAT IMPROVEMENT:

①

☒ ~~MRS. WOODIN~~~~Mr. Kabishek~~☒ ~~MR. ELMER~~~~Mr. Smith~~~~MRS. GARVIN~~~~Mr. Griffith~~☒ ~~MR. DUMONT~~~~Miss Cook~~

## SECTION OF OPERATIONS:

## SECTION OF ERA:

☒ ~~Mr. Krummes~~~~Mr. Regan~~☒ ~~Mr. Gustafson~~☒ ~~Mr. Brown~~

②

☒ ~~Miss Baum~~~~Mrs. Fishman~~~~Mrs. Kricun~~☒ SECTION OF LAND MANAGEMENT:

## STENOGRAPHERS:

~~Mr. Tannshaw~~☒ ~~Miss Whorley~~~~Mr. Askerknecht~~☒ SECTION OF STRUCTURES:~~Mr. Taylor~~

## REMARKS:

No. Dakota Canneret Dist #2  
May-July 41

Return to:

Cook

NARRATIVE REPORT  
MIGRATORY WATERFOWL EASEMENT REFUGES  
DISTRICT #2 NORTH DAKOTA

May - June - July  
1941

Approved by:

Wesley D. Parker  
Refuge Manager

Signed:

Nelson B. Nelson  
Laborer-Patrolman

PA/S

REG

gmc  
v w.

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# NARRATIVE REPORT

## I. General

### A. Weather Conditions: Lake Ardoch Refuge.

<u>Rainfall</u>	
May . . . . .	1.80
June . . . . .	6.10
July . . . . .	.66
Total . . .	8.56

B. Water Conditions: The water supply on most of the refuges has held up good due to fair rainfalls in May and June. Lake Ardoch which was nearly drained by the two cuts in the dam during the run-off filled to within six inches of the spillway level by the middle of June. Since that time it has remained the same with one radial gate slightly open to provide stock water to farmers below the dam. The water is still good - a slight saline taste. One sample was taken of the lake the last of June which is to be analyzed.

## II. Wildlife

### A. Waterbirds:

1.

#### 1. Population and behavior.

a. Species. Canvas-banks - 143 adult and young were counted during the last week in July on the south end of Lake Ardoch while during the same period last year only one brood of ten young and one adult female was observed on the same area.

Redheads - Nine fine broods were observed on Lake Ardoch in July as compared with three during the same period last year. There is an increase of approximately 18% in Redheads throughout this easement district due to

the improvement in water, food and cover conditions.

- b. Groups. The greatest change in bird population in this district took place on the Lac Aux Mortes Refuge. Being dry last year ~~except~~ for a little water in the ditches only about 200 ducks nested on the refuge, while this year with water near spillway level about 10,000 ducks are nesting. Pintails, mallards, baldpates, gadwalls, shovellers, blue-winged teals, redheads, canvas-backs and ruddys make up the bulk of the ducks.

Survey  
note -  
Nbr

Last year there were about 3600 ducks while this summer approximately 15,000 are nesting on the easement refuges in this district due to better water conditions besides an increase in food and cover.

2. Food and Cover. There has been a general improvement in food and cover throughout the district due to more water. On some areas where pasturing has kept the cover down during the last few years, the grasses, brush etc. did advance enough to still provide sufficient cover during the nesting season.

Lac Aux Mortes which has been dry for several years has been about near spillway level and as a result Prairie Bulrush (*S. paludosus*), Hardstem (*S. acutus*), Smartweeds (mostly *P. amphibium* and *muhlenbergii* and arrowhead weeds are again quite common over the area.

Lambs Lake Refuge (1,291 acres) has been near spillway level since the spring run-off ~~aftering~~ having been dry since the dam was put in. This refuge has been very barren but now has several acres of hardstem bulrush, some spike rush, a few

patches of cord grass and a fine stand of various grasses on the upland.

Rose Lake is solid with Prairie Bulrush (*S. paludosus*) now. The following is a comparison of aquatic marsh and shore plants on Rose Lake in August of 1936 and in 1941:

	1936	1941
Algae	A	C
Sago Pondweed ( <i>P. pectinatus</i> )	C	R
Watermilfoil ( <i>M. spicatum</i> )	C	R
Coontail ( <i>C. demursum</i> )	R	R
Softstem Bulrush ( <i>S. validus</i> )	C	R
Hardstem Bulrush ( <i>S. acutus</i> )	F	R
Cat-tail ( <i>T. latifolia</i> )	R	R
* Prairie Bulrush ( <i>S. paludosus</i> )	none	<u>A</u>

No planting records are at hand of any prairie bulrush planting in 1937, '38 or '39. In June of 1941 about 75 pounds of prairie bulrush seed was planted but at that time the bulrush was beginning to appear above the water level over many parts of the lake.

On Lake Ardoch the beds of *P. vaginatus* are quite general this summer. Occasionally a few sago pondweed plants can be found in the shallower water. Where the Forest River joins the lake sago pondweed is common and no doubt as the water conditions improve more sago will be found in the lake. A few wigeongrass plants (*R. maritima*) have been found along the shore of the dam. The hardstem roots planted in 1940 along the shores by the boat house and at the south end of the dam are doing quite well this summer. However, those planted along the shores of the islands on the west side died - due to salt water from the springs on the islands. Insect life is abundant in Lake Ardoch; however, there are less midge larvae as well as fewer adult midge this summer in comparison with last year. Water fleas, caddisfly larvae

and water mites are abundant. A few crustaceans have been seen along the dam and in the Forest River.

Plant life on Little Goose is improving; Sago pondweed which has been rare is now quite common; smartweeds (*P. amphibium muhlenbergii*) have gained a good hold on several places; hardstem bulrush (*S. acutus*) is now common at the north end while small clumps are beginning to show up along the east shore towards the dam. Other plants identified are *S. paludosus*, *E. palustris*, *S. validus*, *S. subulata*, *E. crus-galli*, *R. Circinatus* and *S. interior*.

3. Disease. No dead or sick birds were seen on any of the refuges.

B. Upland-game Birds.

1. Population and behavior. The nesting conditions being improved, more young per brood is evident. Little damage was done by the above normal rainfall during the nesting season.

C. Fur-bearing animals, predator, rodents and other animals.

1. Population and behavior. On the Lac Aux Mortes Refuge where coyotes and red foxes had become quite numerous in the dry lake bottom, now is nearly free of all the above animals due to the filling of the lake last spring.

2. Control. Poison oats was put out on the dams at Little Goose, Lambs Lake, Prairie Lake, Rose Lake and Silver Lake Refuges to control the ground squirrels. On two dams where there were ground squirrels, badgers had dug into the ground squirrel holes for the squirrel - resulting in a hole a foot to three feet deep. These were dug up by the patrolman, refilled and packed with clay.



D. Fish. In May at Lake Ardoch numerous fish as bullheads, white buffalo, northern pike and minnows came up the Forest River from the Red River to spawn. The control gates were opened several times to let some through. Several white buffalo and northern pikes were killed while attempting to jump over the radial gates. During the latter part of July thousands of four inch white buffalo fish came up from below the dam and labored strenuously to get into the lake through the open gate which had about four feet of head water. The five-spined sticklebacks are common along the shores of Lake Ardoch as well as by the bushels at the control gates.

### III. Refuge Development and Maintenance.

#### A. Physical Development.

1. Lake Ardoch: The Lake Ardoch dam was mainly repaired by Walsh County and WPA men from the County-wide Road Project. Approximately 3200 cubic yards of clay was hauled in the washouts on the dam. The Lake Ardoch WPA crew under Project 3600 did the finishing work such as leveling the clay, sloping the banks and riprapping the upstream side. A new cattle guard was constructed at the entrance gate to the Lake Ardoch Refuge headquarters. The material was furnished by the WPA. The large wooden refuge signs on Lac Aux Mortes and Lake Ardoch were relettered to conform with the new regulations. All the refuge markers were replaced on Lake Ardoch.
2. At Silver Lake Refuge a crew of WPA men cleaned and deepened the ditch which drains the water from the Mauvais Coulee to the main area.
3. At the Lac Aux Mortes Refuge the channel below the spillway was cleaned out and the spillway cleaned off so as to not hold water above the intended spillway level.

4. Kellys Slough. One additional barbed wire was placed on the government owned fence beginning at the Nelson well and south to the lake bottom. This is to prevent livestock from getting in on the government owned land and destroy the cover.
5. General. On Prairie and Lambs Lake Refuges about three-fourths of the new refuge markers were put up. Due to the low places being filled with water the balance could not be put up at the time.

#### B. Plantings.

##### 1. Aquatic and Marsh plants.

- a. The following is a summary of the planting during the quarter: Prairie Bulrush seed, Lake Ardoch 200 lbs, Lambs Lake 100 lbs, Wood Lake Marsh 100 lbs., Little Goose 100 lbs., and Kellys Slough 200 lbs.

Hardstem bulrush seed, Lake Ardoch 10 lbs.

Wild Millet seed, 100 lbs at Lake Ardoch, Lambs Lake 50 lbs., Rose Lake 50 lbs., Wood Lake Marsh 50 lbs., Little Goose 100 lbs., and Kellys Slough 200 lbs.

Sago Pondweed seed, Lake Ardoch 30 lbs., and Little Goose 20 lbs.

Softstem bulrush seed, Lambs lake 63 lbs.

The hardstem bulrush roots planted last fall near the south end of the Lake Ardoch dam are doing quite well. The wild millet which was planted along the upstream side of the dam is growing very good. Ducks have been seen feeding on it already - some is nearly ripe.

##### 2. Trees and shrubs.

a. Lake Ardoch - The trees planted near and about the refuge headquarters this last spring did quite well until about the middle of July when it became rather dry. Some of the spruce and black haw have dried up.

3. Grasses. Throughout all of this district the grasses have made a fine "come-back" due to the normal rainfall, up until the first part of July. During the last of July many grasses were drying up due to the high temperatures and lack of moisture on some of the areas.

C. Collections.

1. Plant material - a few plants were gathered for identification.
2. Specimens - none.

IV. Public Relations.

A. Recreational Uses. Occasionally the public uses motor or sail boats on Lake Ardoch. Some Sunday picnics are held in the trees east of the refuge headquarters.

B. Number of visitors (official and others).

1. Mr. Warren E. Hall, District Engineer inspected the Lake Ardoch, Little Goose, Kellys Slough, LacAux Mortes, Silver Lake and Wood Lake Marsh Refuges during the latter part of June.
2. About 300 persons visited at the Lake Ardoch Refuge. The observation tower was used frequently.

V. Other Items.

A. Photographs.





Lambs Lake Refuge, July 1, 1941; Black Terns nest on the south shore. Nest made mostly of hardstem bulrush.



Lambs Lake Refuge, July 1, 1941; Dark patch in the background is hardstem bulrush; foreground mostly cord grass.





Little Goose Refuge, July 1, 1941; At the upper end of the lake can be seen the hardstem (dark patch); part of dam to the lower left; sheep grazing on the other side of the lake.



Lake Ardoch Refuge, June 25, 1941; WPA Crew putting in the cattle guard at the entrance gate.

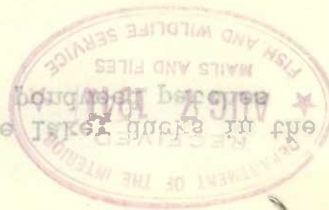


Lake Ardoch Refuge, July 28, 1941; shows hardstem bulrush which was planted in 1940 along the shores. Some prairie bulrush in the foreground.



Lake Ardoch, July 27, 1941; South end of the lake; ducks in the background; islands to the right; *P. vaginatus* pondweed patches can be seen on the lake.

can be seen on the lake  
 packaging: packages for the lake and the lake  
 Lake and the lake of the lake and the lake



following:  
 was planted in 1940 along the shore. some native plants in the  
 Lake and the lake of the lake and the lake



## ROUTING SLIP

## DIVISION OF WILDLIFE REFUGES

DATE: 2-15 1941☒ MR. SALYER☒ ① ~~MRS. WOODEN~~☒ MR. ELMER☒ MRS. GARVIN☒ MR. DUMONTNburACEPAD 9-20

## SECTION OF HABITAT IMPROVEMENT:

~~Mr. Kubiak~~~~Mr. Smith~~~~Mr. Griffith~~~~Miss Cook~~PNHPEGmc

## SECTION OF OPERATIONS:

Mr. Ball

☒ ~~Mr. Williams~~☒ ② ~~Mrs. Watkins~~

Mrs. Kricun

WKmw

## SECTION OF ERA:

☒ ~~Mr. Regan~~☒ ~~Dr. Bourn~~

Mrs. Fishman

SR 9/30/41OSB 10/41

## SECTION OF LAND MANAGEMENT:

~~Mr. E. E. Shaw~~~~Mr. Ackert~~9/27 8/49-22250

## STENOGRAPHERS:

Miss Price

☒ ~~Miss Whitley~~

## SECTION OF STRUCTURES:

~~Mr. Taylor~~~~Mr. Gustafson~~WVRR 10/13

## REMARKS:

North Dakota Easements Dist # 2Quarterly ReportFebruary-April 1941Return to: Cook



UNITED STATES  
DEPARTMENT OF THE INTERIOR  
FISH AND WILDLIFE SERVICE  
OFFICE OF REGIONAL DIRECTOR  
500 NATIONAL BUILDING  
MINNEAPOLIS, MINNESOTA

REGION 3  
—  
NORTH DAKOTA  
SOUTH DAKOTA  
NEBRASKA  
MINNESOTA  
IOWA  
MISSOURI  
WISCONSIN  
MICHIGAN  
ILLINOIS  
INDIANA

May 12, 1941

The Director,  
Fish and Wildlife Service,  
Washington, D. C.

Dear Sir:

There is enclosed the quarterly narrative report covering the period February to April, 1941, for easement refuges in District #2, North Dakota.

You will note Mr. Parker's comments relative to the damage to the Pioneer Lake dam. Since the material on which this structure rests is shale, it is anticipated that there may be some difficulty in making these repairs. We are therefore awaiting an inspection and recommendations by the engineers before proceeding with these repairs.

*original to  
Taylor*

Very truly yours,

F. C. Gillett  
Refuge Inspector

Enclosure



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ILLINOIS  
INDIANA

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The Director,  
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Dear Sir:

There is enclosed the quarterly narrative report covering the period February to April, 1941, for easement refuges in District 48, North Dakota.

You will note Mr. Parker's comments relative to the damage to the Pioneer Lake dam. Since the material on which this structure rests is shale, it is anticipated that there may be some difficulty in making these repairs. We are therefore awaiting an inspection and recommendations by the engineers before proceeding with these repairs.

Very truly yours,

F. C. Gillett  
Refuge Inspector

Enclosure



NARRATIVE REPORT  
MIGRATORY WATERFOWL EASEMENT REFUGES  
DISTRICT #2 NORTH DAKOTA  
February - March - April

By: Nelius B. Nelson, Laborer-Patrolman  
Lake Ardoch Refuge, Ardoch, N. Dak.

*WBS* *me*  
*my*  
TRANSMITTED BY REGIONAL OFFICE

5-12-41

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# NARRATIVE REPORT

## I. General

### A. Weather Conditions: Lake Ardoch Refuge

#### Rainfall

April . . . . . 1.95

During February about 3.35 inches of snow fell and in March 5.85 inches. Temperatures throughout this period above normal most of the time.

B. Water Conditions: Due to the spring ~~un~~ run-off and the rains during the first part of April all but one of the sixteen refuges received a fair supply of water. The following areas are full or near spillway elevation: Prairie Lake, Lambs Lake, Rose Lake, Little Goose, Silver Lake, Wood Lake Marsh, Lac Aux Mortes, Billings Lake and Kellys Slough. Lake Ardoch and Pioneer Lake were also full but because of high water parts of the dams washed out. However, Lake Ardoch still has a fair body of water - sufficient to take care of local nesting birds. Buffalo Lake, Johnson Lake, Minnewastena and Sibley Lake also received a good supply of water which may last throughout the summer. The only area with no water in this spring is Pleasant Lake.

The Little Goose Refuge does not appear to be seeping any more this spring than in the past.

At Pioneer Lake the dam washed out in the middle - a stretch of about twenty-five feet wide on the average. The break in the dam may have been due to muskrat burrows or high water exerting additional pressure on the slow leak in the dam which has been present for sometime. The water was running over the spillway about ten inches deep at the time.

It became necessary to cut two ditches through the Lake Ardoch dam in order to save the control structures and the major part of the dam because of high water. The lake lowered fifteen inches below the maximum water needed, although most of the lake is still covered with water.

Lac Aux Mortes received a good supply of water - when last inspected it was about six inches below spillway level and the water was slowly rising.

## II. Wildlife

### A. Waterbirds:

#### 1. Population and behavior

a. Species. Canvas-backs are more numerous on Lake Ardoch this spring although no change in their number is apparent elsewhere throughout this district. During the last day of April 167 Canvas-backs were counted on the south end of Lake Ardoch.

Redheads - On Lake Ardoch there were about 53 on the last day of April which is an increase in nesting redheads over last spring if all remain.

Snow and Blue Geese - A total of about 900 have stayed on Lake Ardoch this spring. Most flocks were small and stayed only a few days while feeding in the vicinity. Instead of staying on the islands at the north end of the lake they have been on the west side of the lake across from the cabin most of the time.

Canada Geese - Only a few stopped on Lake Ardoch although more flocks flew over this spring than last spring. Reports indicate that there has been more flying through the Devils Lake Region than last year. The first waterfowl seen on Lake Ardoch this spring was a flock of Canada Geese

on March 29th.

- b. Groups. In comparison with 1940 spring migration there is no change in the number of ducks throughout this district. With the abundance of water throughout the entire district at present and with normal rains an increase in nesting birds can be expected.

Date of arrival of some of the species to Lake Ardoch are as follows: Canada Geese, March 29th; Pintails, March 31st; Golden-eyes, Shovellers, Ring-billed and California Gulls, April 7th; Canvas-backs, and Buffleheads, April 12th.

2. Food and Cover. As a whole, there is sufficient food and cover throughout most of the district. Lambs Lake which has been dry for several years has ~~but~~ very little cover as most of the area is a pasture. On Rose Lake many bushels of *S. paludosus* was floating in the water around the shores but no more birds were present than on any of the other areas.

Lac Aux Mortes which has been dry for several years still has good cover and it is believed that food will be sufficient throughout the summer.

#### B. Upland-game Birds.

1. Population and behavior. The severe storm on March 15th and 16th did not kill as many upland game birds as was first expected. On the Lake Ardoch Refuge it was believed that all the partridges that had been feeding near headquarters had died but after a couple of weeks most of them were seen again in pairs. Others reported the same experience in this vicinity.
2. There was no upland game stocking on any of the refuges in this district. Some pheasant were planted in the vicinity of



Lake Ardoch by the State Game and Fish Department.

C. Big-game animals - none.

D. Fur-bearing animals, Predators, Rodents and other animals.

1. Population and behavior. During the trapping season five mink, one red fox and several skunks and weasels were taken by local trappers on the easement land within the Lake Ardoch Refuge. Several Muskrats have been seen at the North end of Lake Ardoch but no damage is being done.

On Lac Aux Mortes farmers began complaining about coyotes which the refuge is harboring they believe. This matter was investigated by the Refuge Manager and the Rodent and Predatory Animal Control Agent. The agent is making a study of the conditions and will take necessary steps to control the coyotes if necessary through the cooperation of the local farmers.

Thus, <sup>it</sup> it has not been determined as to what part the Muskrats played, if any, in the washout of part of the Pioneer Lake dam.

Two beavers have been seen several times this spring on Lake Ardoch near the headquarter site. No trees have been damaged.

2. Control. Gopher Poison boxes were constructed during the winter months to be used in controlling the ground squirrels on the refuge dams. On the Kellys Slough Refuge, on several acres of government owned land, poison oats is to be put out to control the ground squirrels that are bothering a local farmer.

E. Fish. A few bullheads came up the Forest River after the high water on Lake Ardoch had receded. There are no game fish on any of the refuges.



### III. Refuge Development and Maintenance.

#### A. Physical Development.

1. Lake Ardoch Refuge - All but three of the white wooden refuge signs for the refuges in this district were given three coats of paint by the WPA crew and later were stencilled and Refuge names painted on by the Patrolman and NYA boys. Four new signs were constructed. The Nine-foot boat was refinished - inside painted and varnished; outside recanvassed and painted.

The water control gates were cleaned and given three coats of gas plant tar on the upstream side while on the down stream side one coat was put on. Eleven gopher poison boxes with trays were constructed by the NYA boys with the help of the Patrolman. The Patrolman overhauled the Bendix Outboard motor.

About a half a mile of road was gravelled under the County-wide Road Project with the help of two Service trucks. They began gravelling at the south end of the Lake Ardoch dam and will gravel all of the road leading to Highway 54.

The repairing of the Lake Ardoch dam was started on the last day of April under the County-Wide Road Project (WPA). The County is furnishing three dump trucks, a mucker and a cat. They are also furnishing their own men to operate the equipment. Between 2500 and 3200 Cubic Yards of clay will be needed to fill the washouts. Minor repairs will also be made on the bridge. The WPA crew of four men under WPA Project 3600 will take care of the riprapping after the cuts are filled.

2. Other easement refuges. All the refuges were inspected when the roads became passable after the spring run-off, by the Refuge Manager or one of the Patrolman.

Pioneer Lake dam ~~want~~ out on April 9th, either because of high water exerting additional pressure on the leak which has been evident since constructed or because of a muskrat burrow. The cut in the dam is an average of 28 feet wide and 13 feet deep. It will take about 500 cubic yards of clay to repair the damage. Steps are being taken to make necessary repairs.

When Silver Lake was inspected it was found that the ditch leading from the creek to the main lake was too shallow to take all the water coming down the creek, as a result, a considerable amount of water run over the spillway. Local farmers deepened the ditch some. Arrangements are being made to secure a WPA crew to deepen the ditch.

#### B. Plantings.

##### 1. Aquatic and Marsh plants.

a. No planting was done during this quarter. However, several kinds of aquatic and marsh plant seeds have been received and will be planted when conditions are favorable.

##### 2. No cultivated crops on refuges in this district.

##### 3. Trees and Shrubs. ✓

a. Lake Ardoch - The following trees and shrubs were planted on and near the headquarter site:

500 Russian Olive ✓	200 Caragana ✓
100 Lilac ✓	500 Black Haw ✓
17 Colorado Blue Spruce ✓	

The material was all in good condition when received with normal rain fall should grow very good.

4. Grasses. Throughout all of this district the grasses are coming fast and quite thick as a result of the amount of moisture and above normal temperatures.

C. Collections.

1. Plant material - none.
2. Specimens - A shrew was captured on the porch of the Lake Ardoch cabin on March 1st. According to Vernon Bailey's North American Fauna No. 49, it is a Pigmy shrew (*Microsorex hoyi hoyi*). Its total length was 84.2 millimeters; tail 34 and hind foot 11. The upper parts were dusky gray except for the top of the nose which was brown; underparts were an ashy gray; tail was somewhat bycolor - brown above and whitish below. It was a female.

D. Distribution of Seed and Nursey Stock. ✓

1. 10 pounds of *S. acutus* and 63 pounds of *S. validus* seed is available for distribution.

IV. Public Relations.

A. Recreational Uses.

1. No public recreational areas.
2. Fishing - none.
3. Hunting and trapping. On many of the easement refuges the land owners trapped fur-bearing animals such as skunks, weasels, mink and foxes.
4. Number of visitors (official and general public).
  - a. Sullys Hill Refuge Manager visited the Lake Ardoch Refuge several times and also inspected the easement refuges in the northwestern part of district #2. Refuge Inspector, Mr. Gillett visited the Lake Ardoch Refuge on March 21st; the Refuge Manager was also at Lake Ardoch at the time. Local WPA Engineer, District WPA Engineer and District Game Warden visited the Lake Ardoch Refuge in April.
  - b. About 350 persons visited at the Lake Ardoch Refuge in

April - many came to see the damage which had been done to the dam by high water.

B. Violations.

1. Old cases. During the last of March information was received from the District Game Warden as to whom had been trapping mink on government owned land at Kellys Slough last winter. The Patrolman and the Warden tried to get to the suspects farm but because of poor roads had to postpone it.

2. New cases - none.

V. Economic Uses of the Refuges - none.

VI. Field Investigation or Applied Research.

A. Research work - none.

B. Bird Banding - none.

VII. Other items.

A. Photographs

Approved by:

Wesley D. Parker  
Refuge Manager

Signed: Nelius B. Nelson

Title : Laborer-Patrolman





Lake Ardoch - March 23rd, 1941; Shows the snow which filled in about the buildings and along the trail leading to the headquarter site.



Lake Ardoch Refuge - March 23rd, 1941; Shows the snow on the trail between the fence and the trees. It was necessary to drive on a farmers plowed field most of the winter in order to get to the main road.



Lake Ardoch - April 9th, 1941; Shows emergency WPA crew diking on the dam south of the control gates to prevent washouts.



Lake Ardoch - April 11th, 1941; Water at about the highest; the ditch across the south end of the dam can be seen in the center of the picture. (Looking north).



Lake Ardoch - April 16th, 1941; Ditch which was cut across the north end of the dam to prevent washout of the entire dam with possible damage to the control structure and bridge.



Lac Aux Mortes - April 19th, 1941; water coming in through the ditches to the lake.



Lac Aux Mortes,- April 19th, 1941; Taken from the refuge tower looking over the lake to the south.



Silver Lake Refuge - April 19th, 1941; From east side of lake proper - looking to the west. Water about six feet deep in the lake.





Buffalo Lake - April 19th, 1941; taken from the spillway looking towards the government owned cabin which can be seen in the background.



Rose Lake - April 24th, 1941; shows the lake at spillway level. This area was dry last fall.



Billings Lake - April 25th, 1941; Shows the lake an ~~inh~~ inch above spillway level. There were numerous waterfowl at the north end of the lake at the time.



Lambs Lake - April 25th, 1941; Shows the lake one inch below spillway level. This area has been dry for several years and therefore has very little cover.

Billings Lake - April 25th, 1941; Shows the lake an inch above  
spillway level. There were numerous waterfowl at the north end  
of the lake at the time.



Lamps Lake - April 25th, 1941; Shows the lake one inch below  
spillway level. This area has been dry for several years and  
therefore has very little cover.